

INTELLIGENT TRANSPORTATION APPLICATION

General Instructions:

This Excel form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments (MAG) for Bicycle Projects to be included in the FY2014-FY 2018 MAG Transportation Improvement Program. Funding is available for Federal Fiscal Year (FFY) 2015, 2016 and 2017.

This application form includes:

- Part A - Contact and Project Description,
- PART B - ITS TIP Listing and CMAQ Score Data,
- PART C - ITS project Description,
- Part D - Checklist and Signature Page, and Transmittal Instructions and Schedule.

Each part is a separate tab of this excel file. Please complete Parts A - D. Alternative application forms are available upon request.

Deadlines and Transmittal Instructions:

Two copies of a printed, complete and signed application must be received in the MAG offices by **10:00 a.m. Wednesday, September 19, 2012**. The application is to be submitted electronically and should include ArcGIS shape files depicting the project location if they are available.

Detailed transmittal instructions are located in a separate tab in this excel sheet. Late applications will not be accepted.

If member agencies need additional information or have questions, they should contact Teri Kennedy or Stephen Tate at (602) 254-6300 or contact them by e-mail at the following addresses:

- <mailto:state@azmag.gov>
- <mailto:tkennedy@azmag.gov>
- <mailto:LLuo@azmag.gov>

All information is required, unless noted by the word - Optional.

PART A - CONTACT AND PROJECT DESCRIPTION

Contact Information	
1. Sponsoring Agency	City of Chandler
2. Contact Name	Hong Huo
3. Phone	480-782-3481
4. E-Mail Address	hong.huo@chandleraz.gov
5. Mailing Address	Mail Stop 402 PO Box 4008 Chandler, Arizona 85244-4008

(OPTIONAL)

If the applicant will be providing a GIS coverage (shapefile or geodatabase), please see the tab labeled "GIS Transmittal Instructions)

GIS Submittal Instructions

ITS Application from City of Chandler for 'Traffic Signal Controller Upgrades'

PART B-ITS TIP Listing and CMAQ Score Data

This part of the form identifies data to calculate an CMAQ Score and provide the minimum data needed for a listing of the project in the Transportation Improvement Program

Federal Funding Eligibility

All ITS projects to be funded with Federal CMAQ funds must be in the 8-Hour Ozone Nonattainment Area. Please use the following link to verify that the map is located in the nonattainment area:

[Link to an 8-Hr Ozone Nonattainment Map on the MAG Website](#)

1. Traffic Estimate and Roadway Characteristics

a. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: 38781

b. Please Describe how the ADT was estimated: The ADT was estimated based on the average traffic count from 98 signalized intersections in City of Chandler conducted in 2012.

c. When was the ADT estimate developed: 2012

d. Name of the Roadway Section Used for the ADT Estimate: 98 signalized intersections in City of Chandler

e. Starting Limit of the Roadway Section: City Boundary

f. Ending Limit of the Roadway Section: City Boundary

g. Length (Miles) 136

h. Total Number of Through Lanes on the Roadway Section: varies

i. Federal Functional Classification of the Roadway Section: Principal Arterial - Other
[Link to Functional Classification Map on the MAG Website](#)

2. Traffic Coordination Improvements. If the project improves traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor: 40-45

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

	Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
	Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
	Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
X	interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
	interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
	Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

3. Other Improvements. Check all that apply:

- Includes Traffic Signal Improvements for a Single Agency
- Includes Traffic Signal Improvements that Apply to More than One Agency
- Includes FMS Improvements
- The Project Conforms to Local Land Use Plans
- Adds Traffic Signals that increase pedestrian crossing time for seniors

4. Traffic Speed Impacts of the Project (Not required for Traffic Coordination Improvements)

- a. Enter the pre-improvement (current) traffic speed of the traffic corridor:
- b. Enter the post-improvement (current) traffic speed of the traffic corridor:

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PART C -ITS project Description

Please enter project data ONLY in highlighted cells, save the file with the lead agency name in it - ie. City 0 ITS Projects.xls

Submit this Excel workbook to MAG via email to: lluo@azmag.gov

Please use one worksheet per project, with the tab at the bottom indicating agency priority -- Mesa1, Mesa2,.. etc.

Links to various websites are provided for additional information and help

The worksheet titled "Example" shows an example on how to enter Data in the highlighted areas

Please enter required information in highlighted cells

A. Project Title & Sponsor

Lead Agency	City of Chandler
Other Partnering Agencies	None
ITS Project Title:	Traffic Signal Controller Upgrades
Project Category:	Arterial ITS

B. Project Goals & Objectives

Project Goals:

To improve traffic flow and reduce delays by upgrading signal controller equipment to be compatible with the latest software.

Objectives:

The City has about 201 traffic signal controllers operating in field. The existing controllers constantly have clock drifting problems, causing timing differences and creating a ripple effect between intersections. The existing controllers skip phases in the presence of long pedestrian crossings and disrupt coordination. The existing controllers cannot implement Flashing Yellow Arrow functionality. Currently, the city is in the process to upgrade the controller firmware and proposes to use CMAQ funding to purchase new compatible traffic signal controller hardware to solve the issues mentioned above.

C. Project Information

Project Location:

201 signalized intersections in City of Chandler.

Scope of the project:

Purchase and install 201 new traffic signal controllers in the City of Chandler. The installation will be done in house by city signal maintenance crews.

D. Identify Components in MAG Regional ITS Architecture

<u>ITS applications</u>	<u>Relevant Applications (ENTER: Yes or No)</u>	<u>Applicable ITS Market Packages</u> http://www.azmag.gov/ITS/
1. Traffic Management	Yes	ATMS03-04
2. Transit Operations Support	Yes	APTS09-1
3. Communications	No	

Note: Please attach the Architecture Flow Diagram in the application

4. Traveler Information	No	
5. Archived Data Management	No	
6. ITS for Safety	No	
7. ITS Plans	No	
8. Freeway-Arterial Operations	No	

E. Program Year Preference

First Choice FY2015 FY2016 FY2017

Second Choice FY2015 FY2016 FY2017

Third Choice FY2015 FY2016 FY2017

F. Project Budget

	Federal Cost	Local Match (min 5.7%)	Total Cost
Amount	\$511,766.00	\$30,934.00	\$542,700.00
Cost percentage	94.3%	5.7%	

G. Project Schedule

The table below is provided as a tool to assist local agencies develop a project planning schedule. Column A shows standard project milestones and Column B shows the schedule based on a typical project procurement process. To generate a custom Project Schedule:(1) select applicable milestones in Column C;(2) Enter estimated time to complete milestone measured in months from project development start date in Column D; NOTE: The project obligation date generated in cell E111 MUST occur before Sept 15th of the programmed fiscal year. Determine the appropriate Project Activity Start Date (by trial-and-error) in order to obligate the project on time.

Standard Project Milestones	Default Schedule for Process	Applicable Milestones (ENTER - Yes OR No)	Estimated Time to Milestone (ENTER #Months)	Estimated Date
Apply for ADOT project number				Jan-2014
Receipt of ADOT project number	Mar-2014	Yes	1	Feb-2014
Initial DCR	Apr-2014	No		NA
Final DCR	May-2014	No		NA
30% Preliminary Plans, Cost Estimate and Report	Jul-2014	No		NA
60% Preliminary Plans, Cost Estimate and Report	Sep-2014	No		NA
Final Preliminary Plans, Cost Estimate and Report	Nov-2014	No		NA
Environmental Clearance	Sep-2014	Yes	9	Oct-2014
Utility Clearance	Oct-2014	Yes	9	Oct-2014
Right-of-Way Clearance	Jul-2014	Yes	9	Oct-2014
Approval of IGA	Jan-2015	No		NA
Obligation authority of Federal funds	Feb-2015	Yes	3	Oct-2014
Advertised Date	Apr-2015	Yes	1	Nov-2014
Final Deployment	Oct-2015	Yes	2	Jan-2015

< ENTER mm/yy

H. System Maintenance and Operations

Current staff resources available for ITS operations at the local
 Additional staff resources required for fully utilizing features added by
 Estimated current annual ITS operations & maintenance budget
 Estimated additional annual operations & maintenance funds required
 Estimated DATE from when required additional O&M funds will be

10
0
\$1.5 Million
\$0
N/A

check project schedule

Other comments:

I. Systems Engineering Analysis Requirement

Commitment to address the federal requirement for Systems Engineering Analysis:

Agency's intent to follow the process described in the 'V' diagram during the project development process

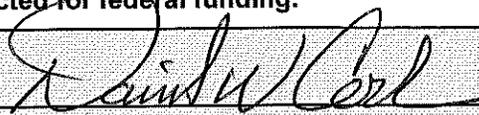
City of Chandler intends to conduct a Systems Engineering Analysis in the project development process. Details on the ADOT System Engineering Checklist can be found at:

<http://www.azdot.gov/Highways/TTG/PDF/SystemsEngineeringChecklist.pdf>

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PART D - SIGNATURE AND CHECKLIST

As the jurisdiction's manager/administrator or designated representative, I certify that this application is accurate and complete and that the project will be included in the sponsoring MAG member agency's local CIP/TIP if the project is selected for federal funding.

Signature: 

Name: Daniel W. Cook, PE

Title: Transportation Manager

Date: 9-17-12

WILL FILL OUT AFTER QUESTIONS APPROVED

Checklist - OPTIONAL

This check list is optional, but is included to facilitate applicant review and verification that all required fields in the form have been completed.

PART A - Contacts and Project Description Fields	Complete?
Contact Information, fields 1 – 5 are complete	Yes
PART B - TIP Listing and CMAQ Score Data	Complete?
1. Traffic Estimate and Roadway Characteristics - Fields a - I are complete	Yes
2. Traffic Coordination Improvements - as applicable table is complete	Yes
3. Other Improvements - As applicable all fields are completed	Yes
PART C - Total Project Schedule and Budget Including All Segment Fields	Complete?
Section A is Complete	Yes
Section B is Complete	Yes
Section C is Complete	Yes
Section D is Complete	Yes
Section E is Complete	Yes
Section F is Complete	Yes

Section G is Complete	Yes
Section H is Complete	Yes
Section I is Complete	Yes
PART D - Signature Page Fields	Complete?
Form is signed	Yes
Name, title and date fields are completed.	Yes

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MAG CMAQ Project

Intelligent Transportation Systems Project

C. CONSTRUCTION OR IMPLEMENTATION

For non-infrastructure projects (no ground disturbing activities), address only parts 2, 3 and D.

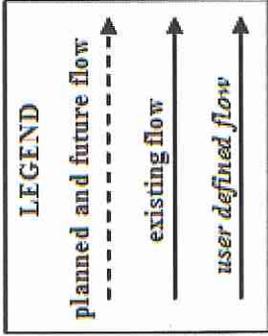
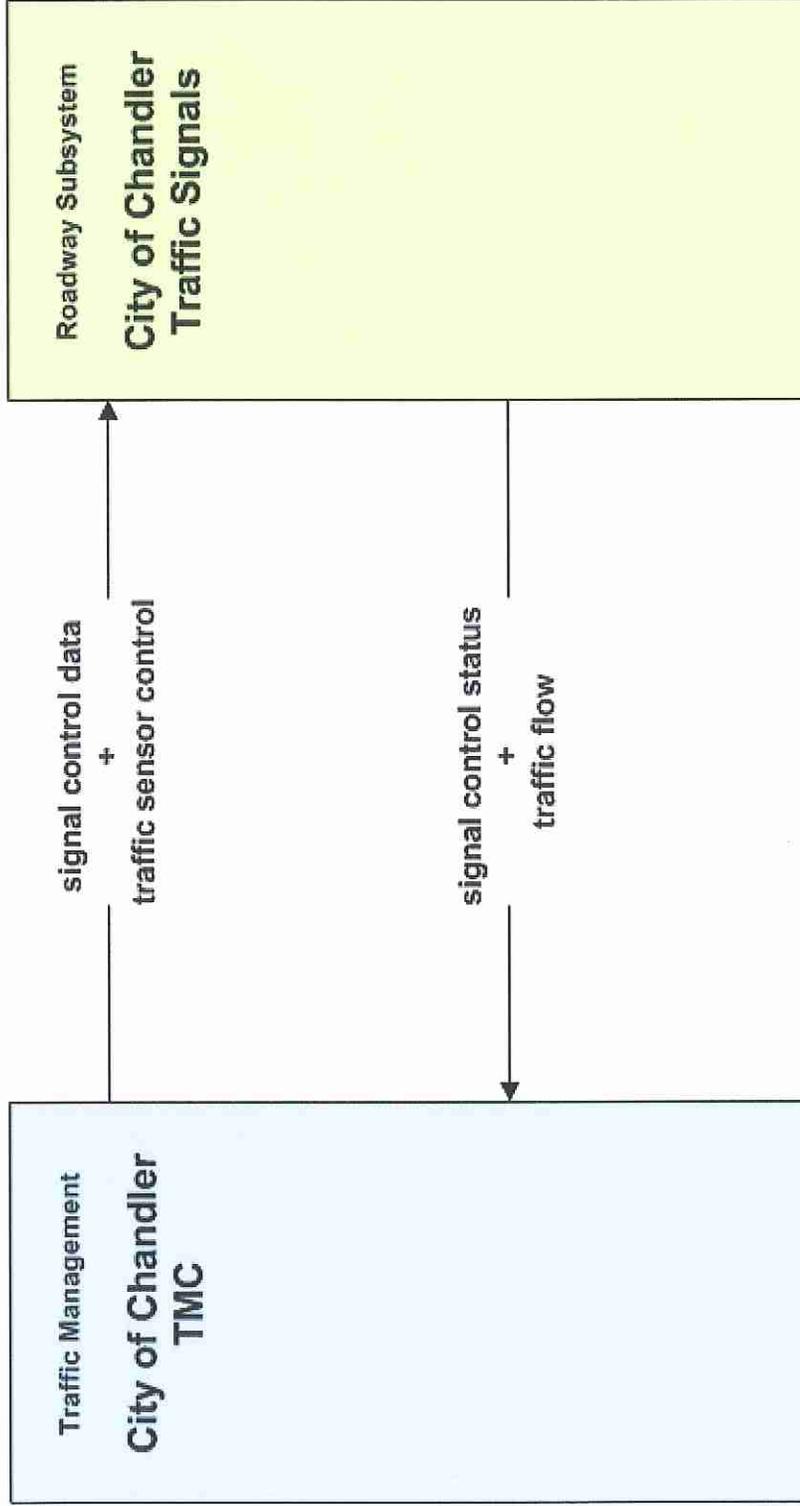
2. PROCUREMENT (Insert additional rows if necessary)

Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
Traffic Signal Controller	EA	201	\$2,700	\$542,700	Yes
SUBTOTAL – PROCURMENT				\$542,700	\$542,700
TOTAL CONSTRUCTION OR IMPLEMENTATION COST				\$ 542,700	\$ 542,700
D. ADOT Fee for PE Reviews and Staff Charges					
	LS	1	\$5,000	\$5,000	No
TOTAL ADOT Fee COST				\$5,000	\$0
E. TOTAL PROJECT COST (All subtotals + ADOT local projects review fee)				\$547,700	\$542,700

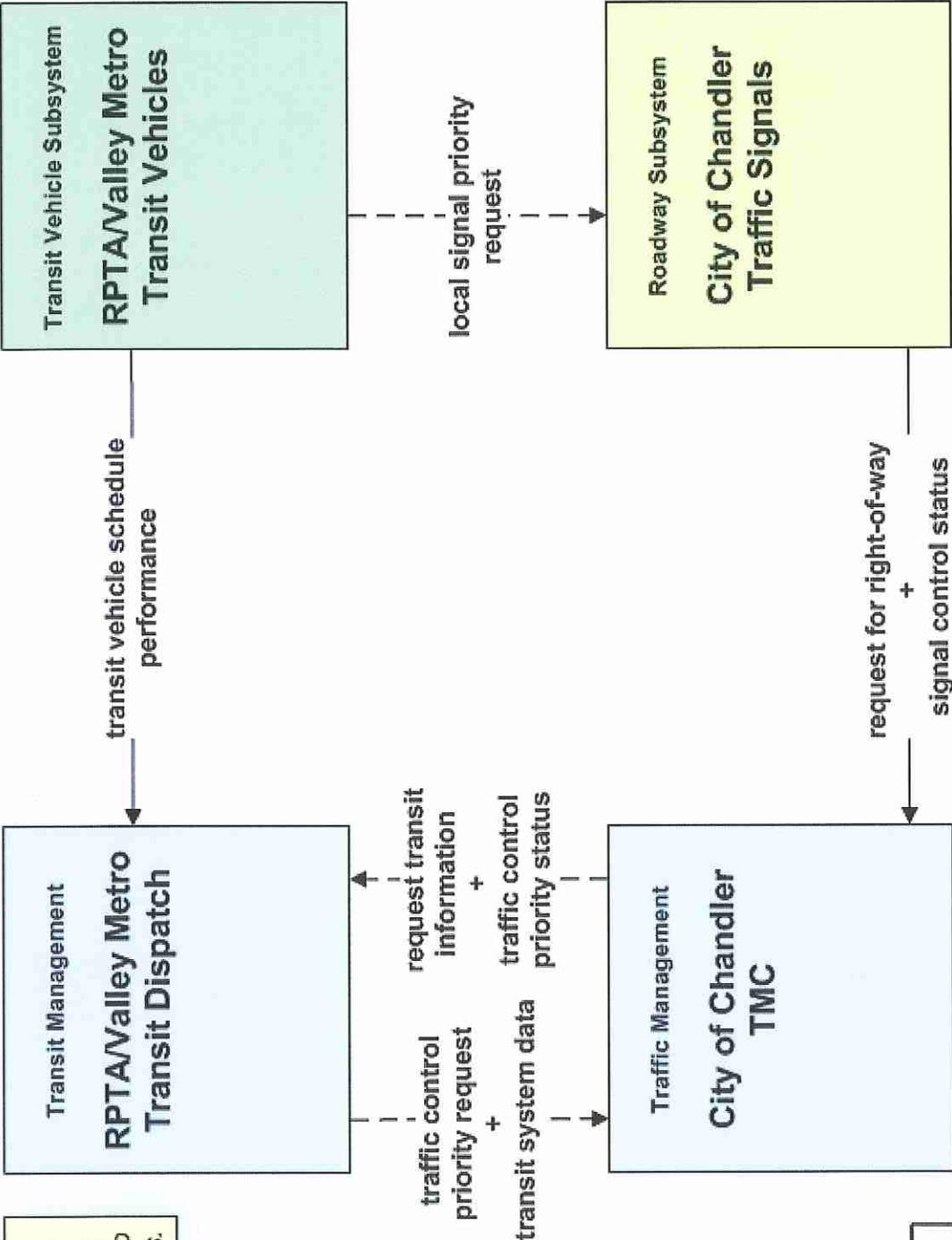
F. SUMMARY OF FEDERAL AND NON-FEDERAL FUNDS

TOTAL COST FOR PROJECT CONSTRUCTION/IMPLEMENTATION	\$547,700
TOTAL COST FOR PROJECT ELIGIBLE FOR FEDERAL REIMBURSEMENT	\$542,700
TOTAL FEDERAL FUNDS @ 94.3% (.943 x Total Eligible Cost shown highlighted above)	\$511,766
LOCAL AGENCY MATCHING FUNDS (.057 x Total Cost shown highlighted above)	\$30,934
LOCAL AGENCY FUNDS <u>NOT</u> ELIGIBLE FOR FEDERAL REIMBURSEMENT	\$5,000

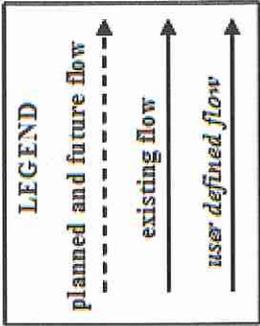
**ATMS03 - Surface Street Control
City of Chandler**



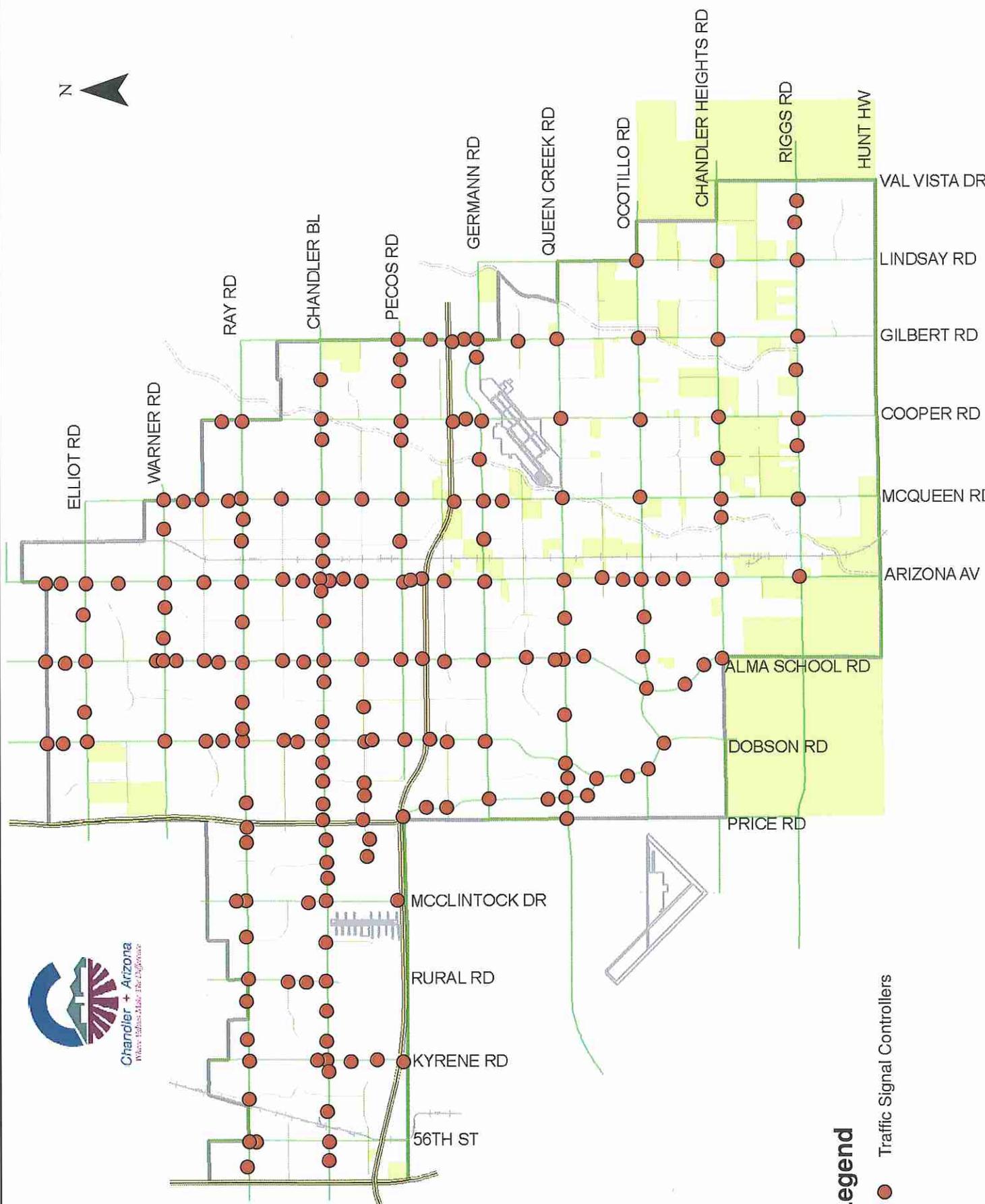
APTS09 – Transit Signal Priority RPTA/Valley Metro – City of Chandler



Many cities have infrastructure in place which is not yet being utilized by Valley Metro or local transit services.



The planned and future flows are not necessarily being funded. They may reflect the desire to have the data link from either or both sides of the stakeholders.



Legend
● Traffic Signal Controllers